



ENERGY AND CARBON TAXES: EMPIRICAL EVIDENCE FROM EU MS

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WIFO 



- EU has committed itself to ambitious climate targets
- EU CO₂ emissions from industry and energy supply are regulated under the EU ETS
- GHG emissions from private households, transport and other small sources are regulated on MS level
- Minimum energy tax rates for the MS are defined in the 2003 energy taxation directive
- EC proposal for a new energy taxation directive with more emphasis on carbon content of fuels not adopted in 2011
- Existing energy taxes serve mainly revenue raising, only in some cases an explicit reduction of emissions is intended

- Review of energy tax rates by energy source and use category based on the EU's taxation reports
 - Focus on fuels in the transport sector
 - Assessment of the CO₂ component included in the taxes
 - ↳ Differences between fuels
 - ↳ Differences between Member States
- Indication of tax exemptions – implicit energy tax rates



Energy Tax Rates in EU MS in € / GJ

January 2017

	Coal - Heating business use	Coal - Heating non-business use	Petrol	Gasoil - Propellant	Gasoil - Heating business use	Gasoil - Heating non-business use	Gas - Propellant	Gas - Heating business use	Gas - Heating non-business use	Electricity - Business use	Electricity - Non-business use
AT	1,70	1,70	15,20	11,43	3,14	3,14		1,66	1,66	4,17	4,17
BE	0,41	0,41	19,16	14,34	0,50	0,50		0,28	0,00	0,83	0,54
BG	0,31	0,31	11,07	9,19	9,19	9,19			0,00	0,28	0,00
CY	0,00	0,31	14,60	12,52	3,47	3,47			0,60	1,39	1,39
CZ	0,31	0,31	14,49	11,27	11,27	11,27				0,29	0,29
DE	0,17	0,33	20,19	13,30	1,49	1,49				4,27	5,70
DK	9,62	9,62	20,19	11,67	9,11	9,11				0,15	33,97
EE	0,93	0,93	14,18	12,46	12,46	12,46				1,24	1,24
ES	0,15	0,65	13,42	9,21	2,36	2,36			0,85	1,42	1,42
FI	7,49	7,49	21,42	14,76	6,36	6,36			5,17	1,95	6,26
FR	2,78	2,78	19,84	14,76	3,31	3,31			1,63	6,26	6,26
GR	0,30	0,30	21,34	11,40	11,40	11,40	0,00	0,60	0,30	1,39	0,61
HR	0,31	0,31	15,68	14,74	1,57	1,57	0,00	0,15	0,30	0,14	0,27
HU	0,30	0,30	12,12	10,41	10,41	10,41	2,67	0,30	0,30	0,28	0,28
IE	1,89	1,89	17,92	13,32	2,84	2,84	2,60	1,03	1,03	0,14	0,28
IT	0,16	0,32	22,21	17,17	11,22	11,22	0,09	0,34	3,89	2,30	6,31
LT	0,15	0,30	13,24	9,18	0,59	0,59	6,56	0,15	0,30	0,14	0,28
LU	5,00	0,30	14,13	9,36	0,28	0,28	0,00	0,30	1,08	0,14	0,28
LV	0,35	0,35	13,29	9,48	1,09	1,09	2,67	0,46	0,46	0,28	0,28
MT	0,30	0,30	16,75	13,13	6,46	6,46		0,84	0,84	0,42	0,42
NL	0,54	0,54	23,47	13,48	13,48	13,48	4,57	2,55	7,16	11,43	27,99
PL	0,30	0,30	12,40	9,45	6,45	6,45	2,48	0,30	0,30	1,30	1,30
PT	0,59	0,59	18,83	11,18	9,53	9,53	3,13	0,59	0,59	0,28	0,28
RO	0,16	0,32	11,35	9,49	9,49	9,49	2,79	0,18	0,34	0,15	0,30
SE	12,89	12,89	20,57	17,19	8,36	12,02	6,40	5,87	8,89	0,15	8,66
SI	1,86	1,86	16,75	13,10	5,63	5,63	3,45	1,42	1,42	0,85	0,85
SK	0,31	1,00	16,24	10,49	10,49	10,49	2,60	0,37	0,37	0,37	0,00
UK	0,00	0,00	20,23	18,46	3,55	3,55	5,67	0,61	0,61	0,00	0,00
EU MED*	0,15	0,30	10,95	9,18	0,58	0,58	2,60	1,15	0,30	0,14	0,28

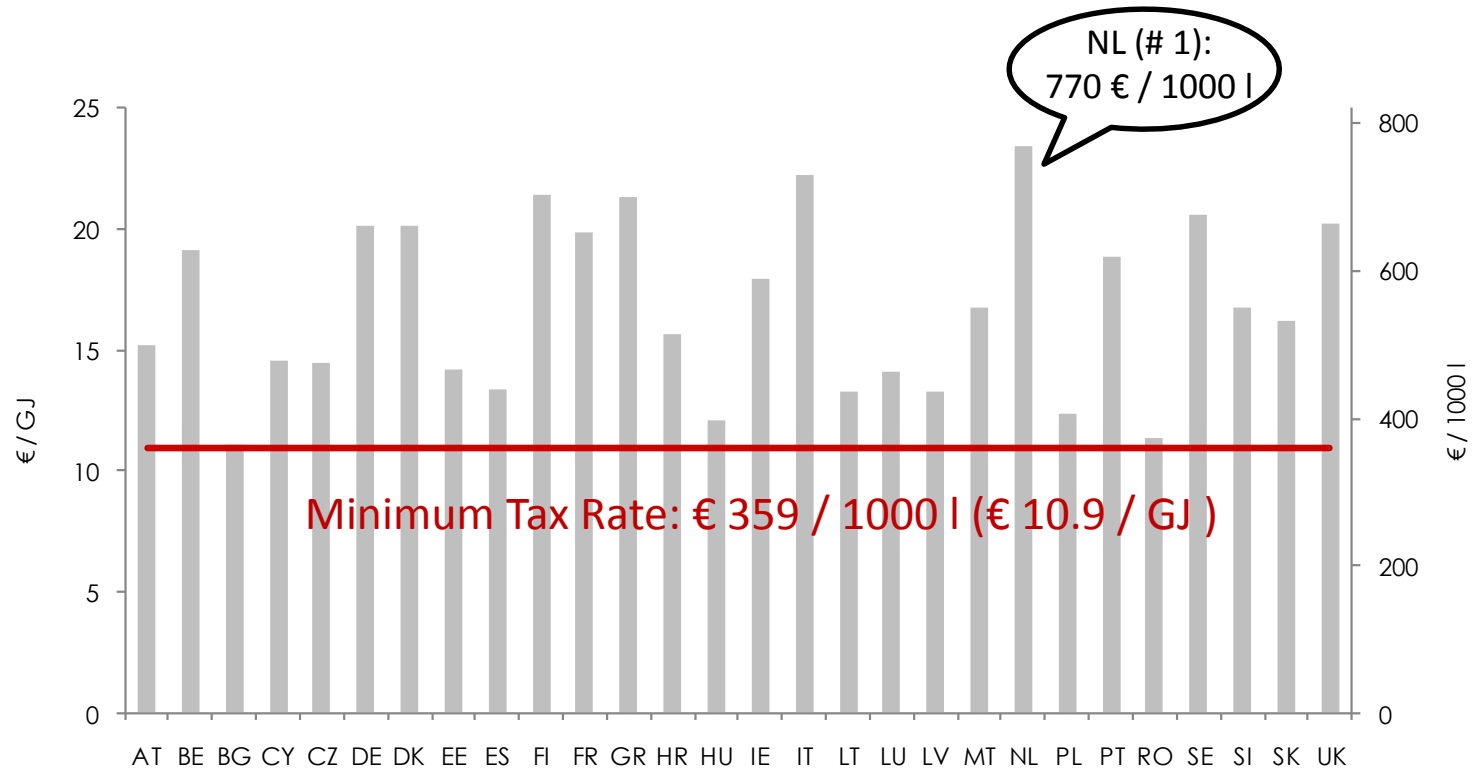
Highest tax rates for petrol and gasoil

Source: EC Excise Duty Tables January 2017

* Minimum Excise Duty

Petrol Tax Rates in EU MS

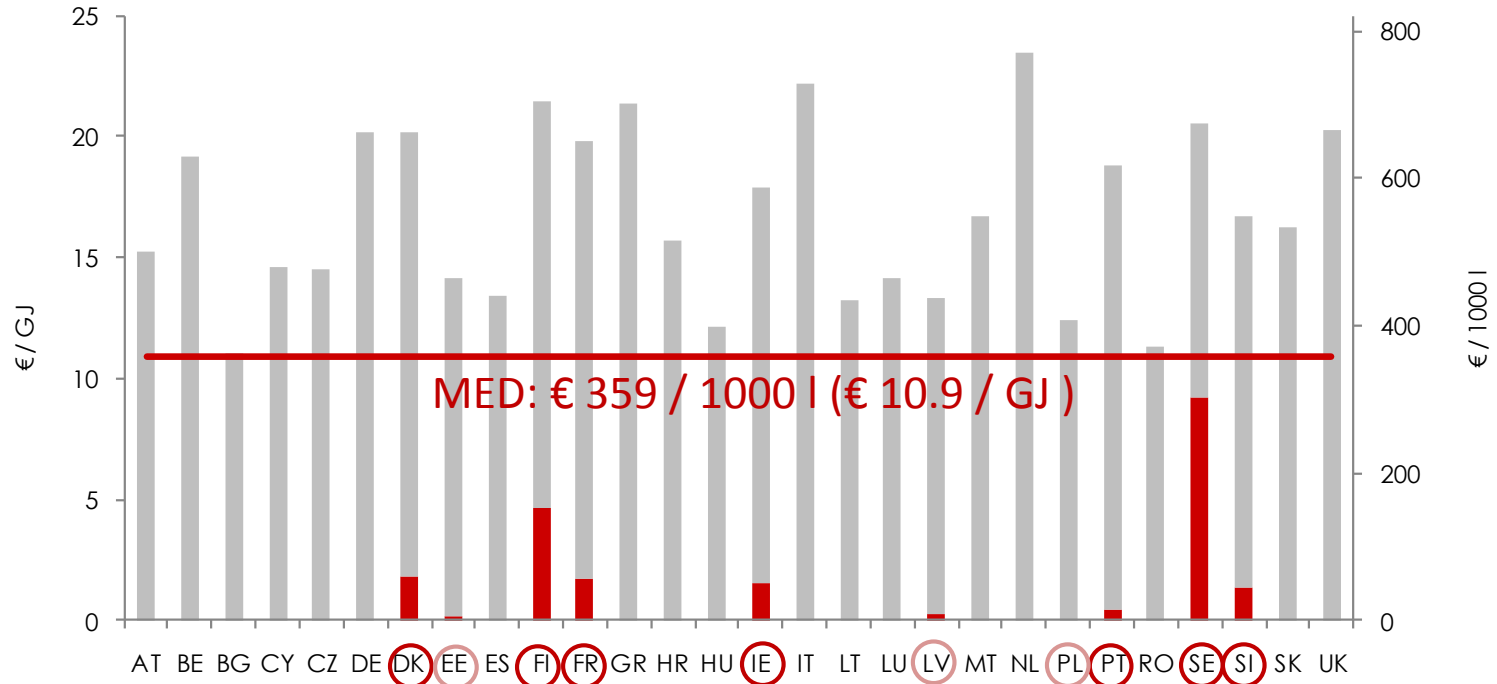
January 2017 (I)



Source: EC Excise Duty Tables January 2017

Petrol Tax Rates in EU MS

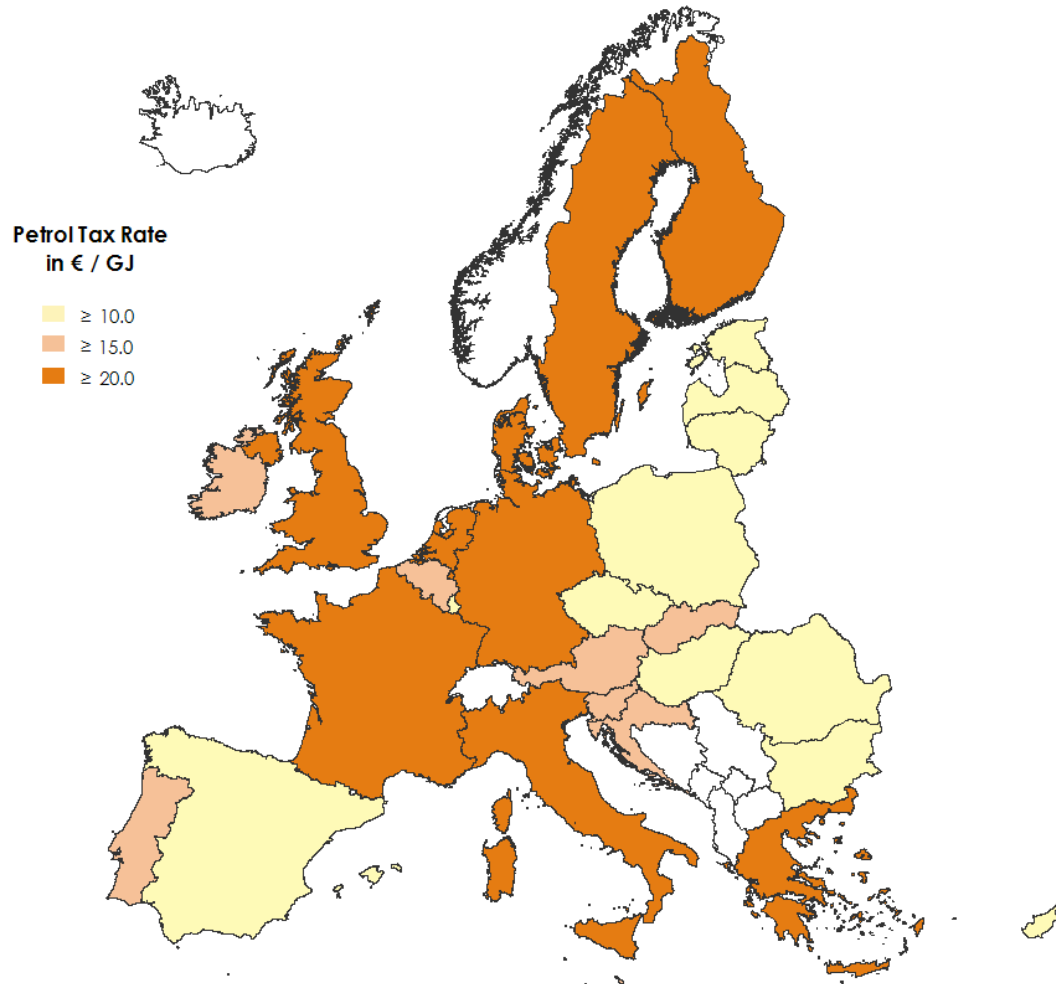
January 2017 (II)



Taxes in 10 countries have an explicit carbon component

Petrol Tax Rates in EU MS

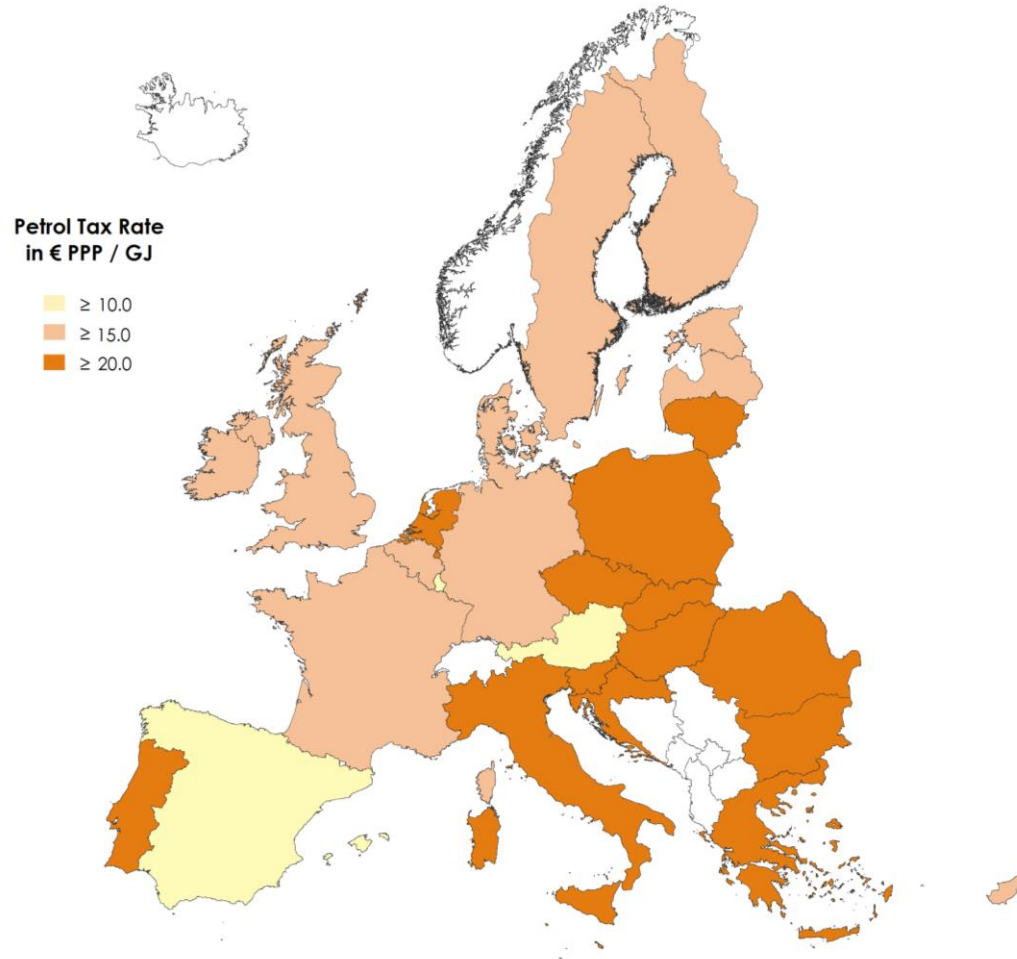
January 2017 (III)



Source: EC Excise Duty Tables January 2017

PPP Petrol Tax Rates in EU MS

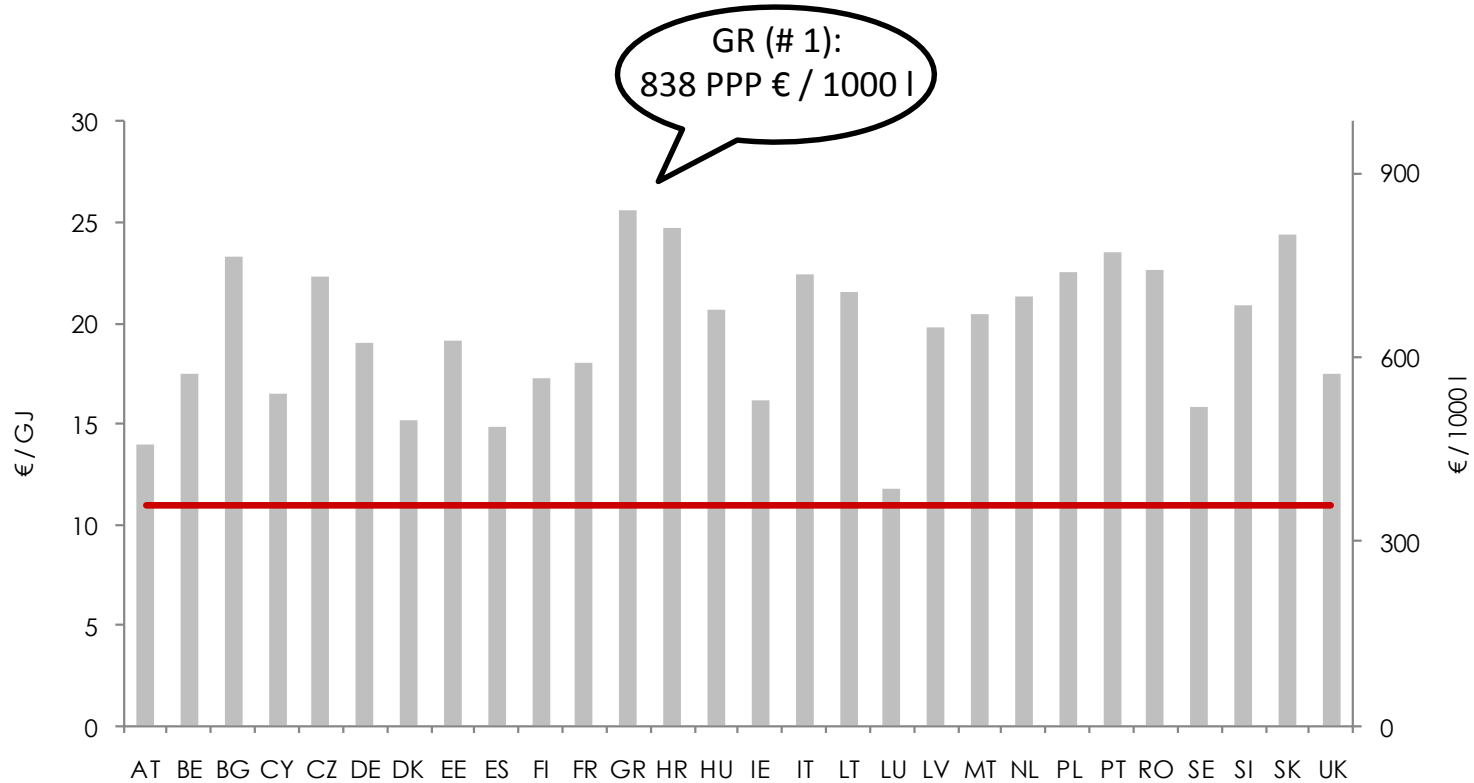
January 2017 (I)



Source: EC Excise Duty Tables January 2017, Eurostat

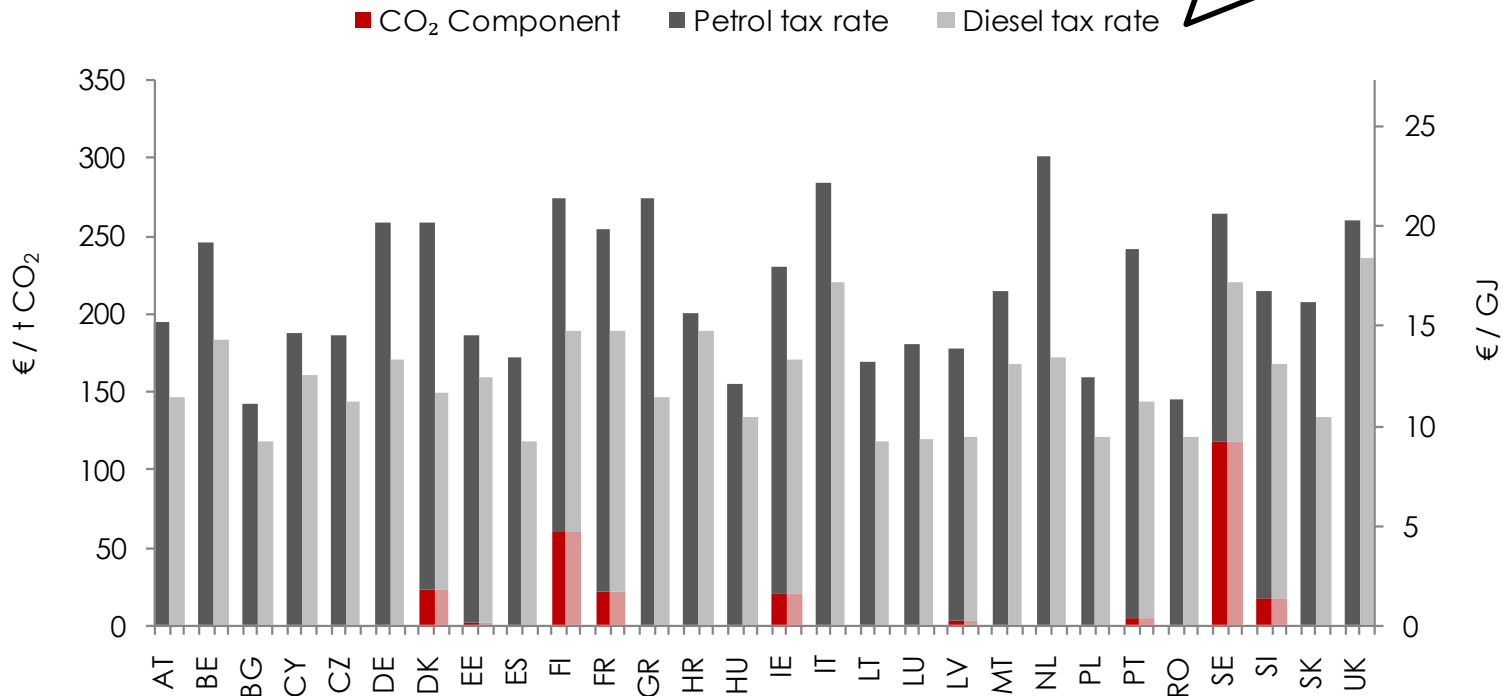
PPP Petrol Tax Rates in EU MS

January 2017 (II)



Source: EC Excise Duty Tables January 2017, Eurostat

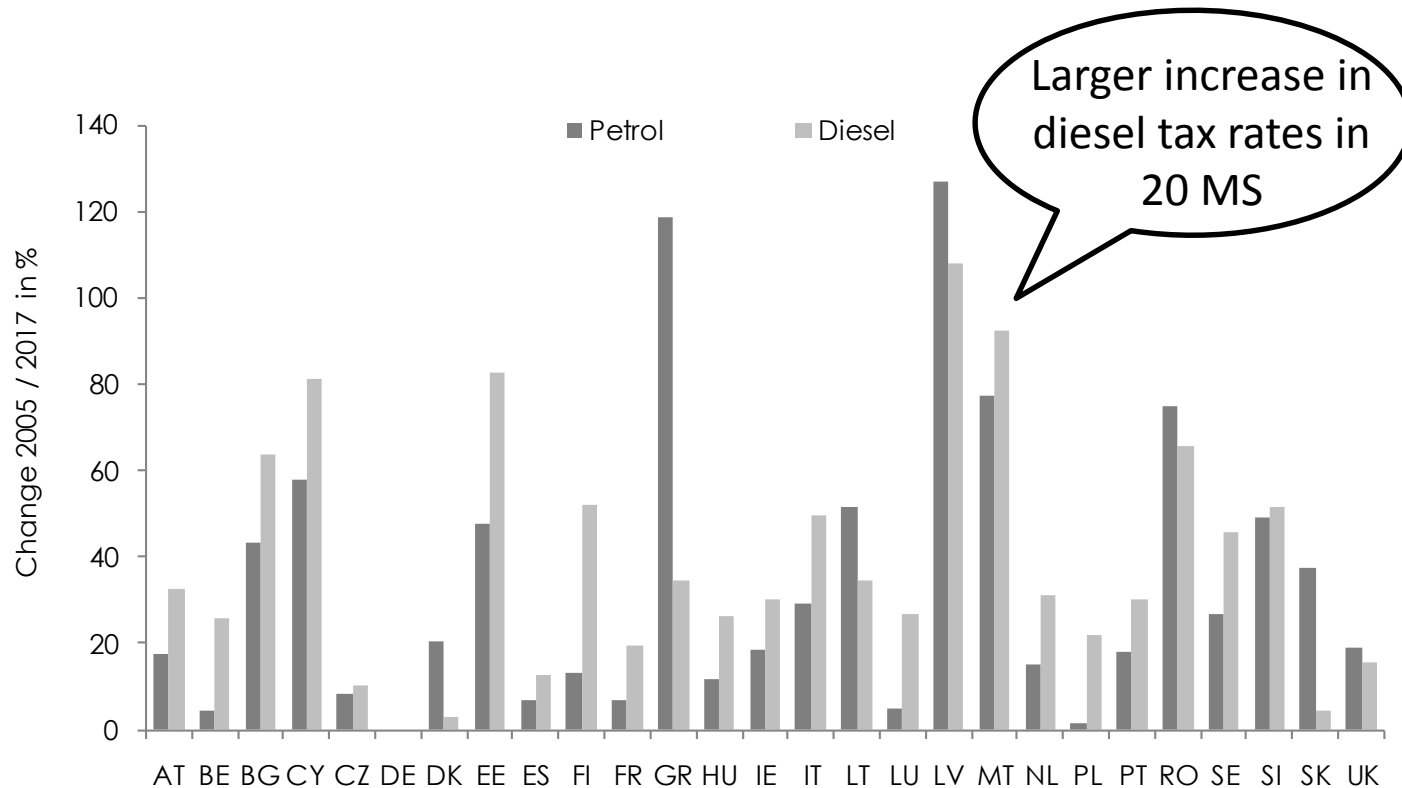
Petrol tax rates significantly higher in all MS



Source: EC Excise Duty Tables January 2017

Petrol vs. Diesel Tax Rates in EU MS

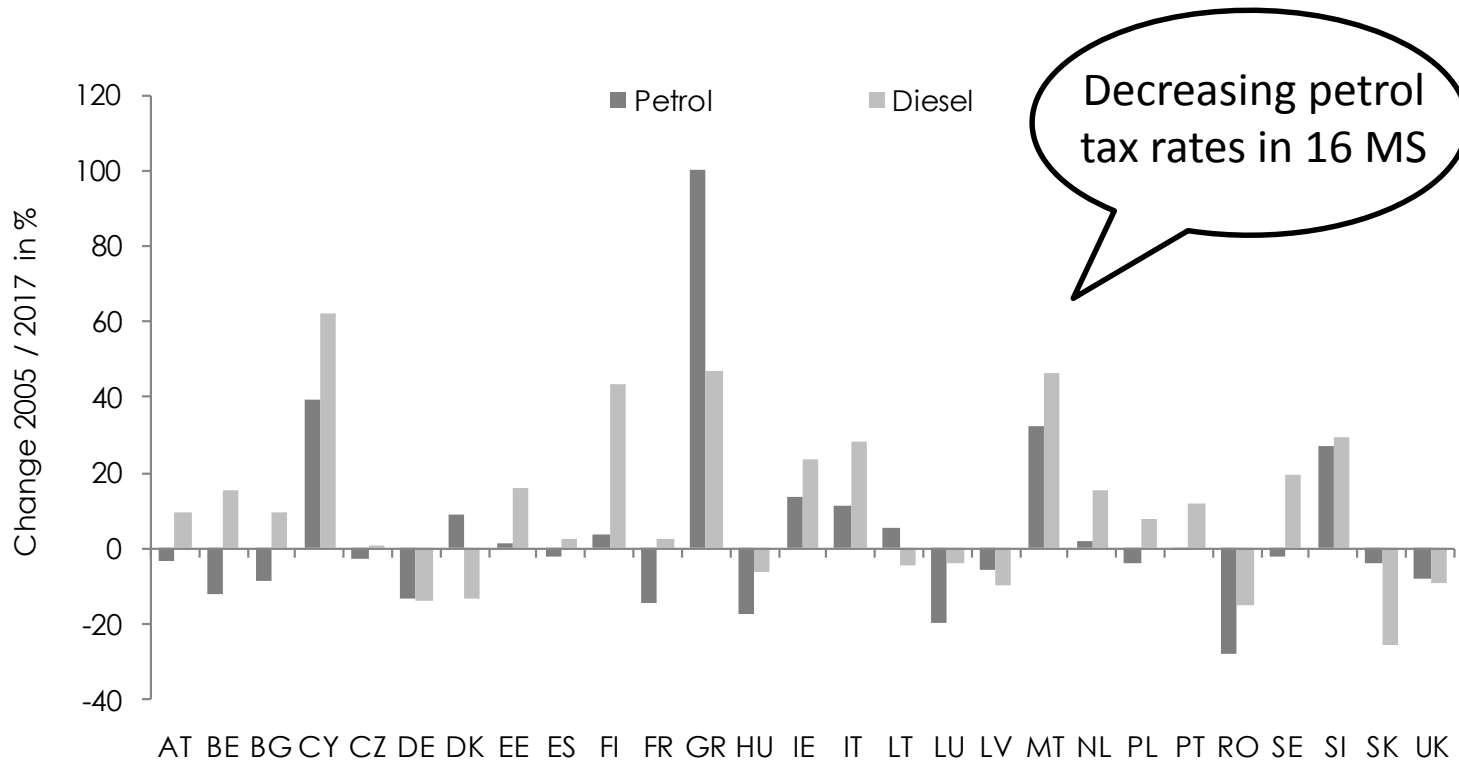
Development of nominal tax rates 2005/2017



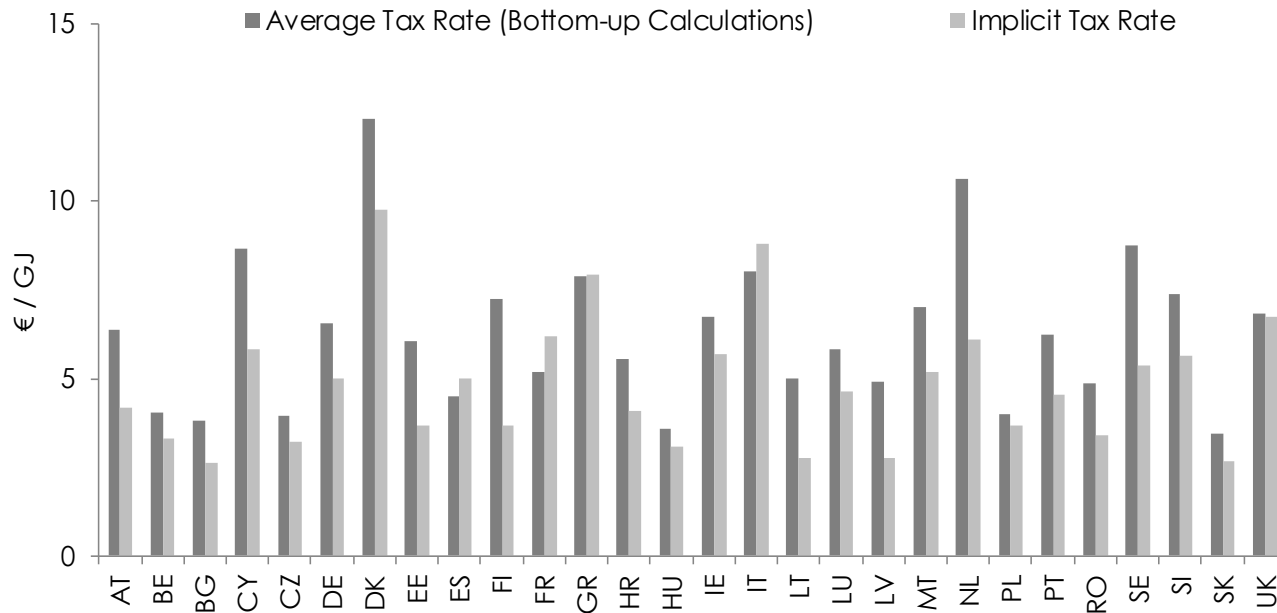
Source: EC Excise Duty Tables January 2005, 2017

Petrol vs. Diesel Tax Rates in EU MS

Development of constant PPP tax rates 2005/2017



Source: EC Excise Duty Tables January 2005, 2017, Eurostat

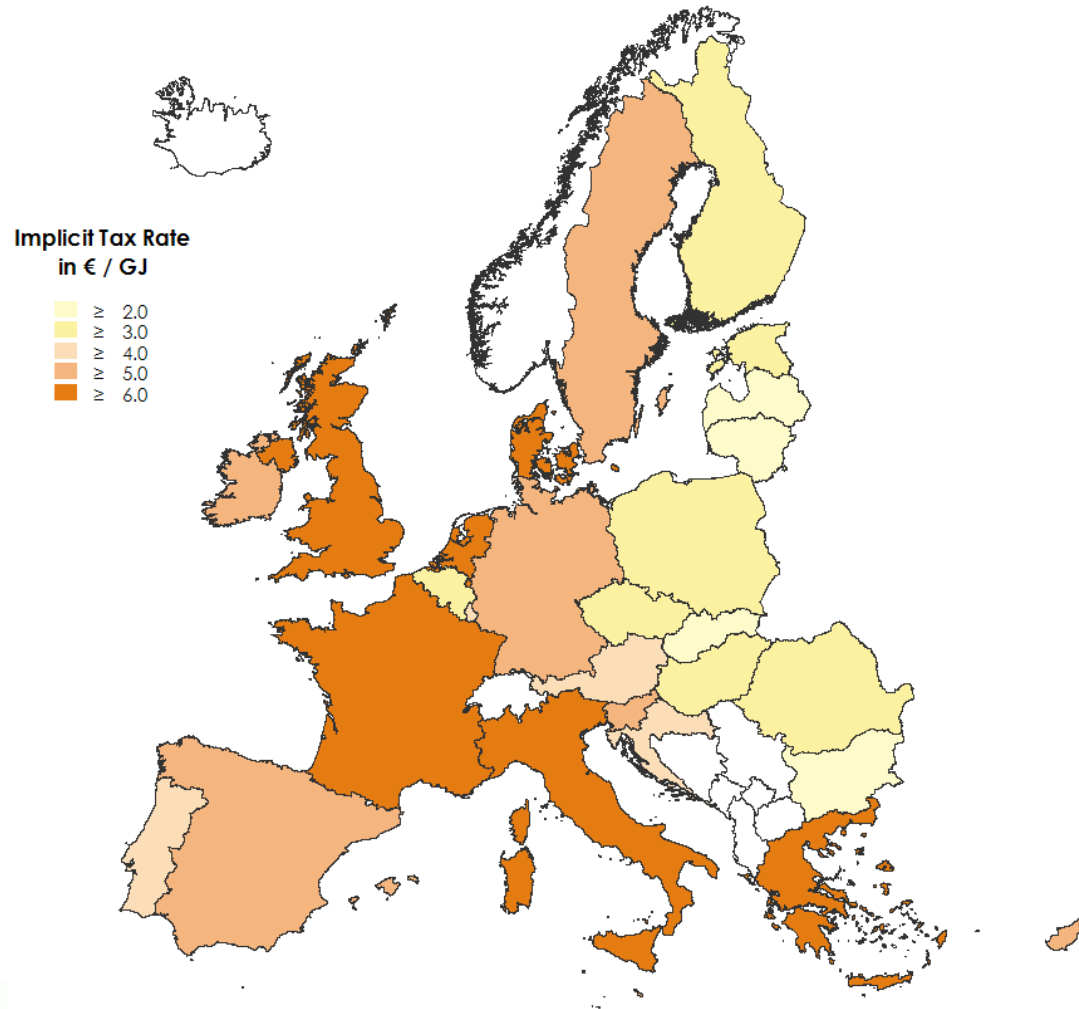


Bottom-up estimates exceed top-down calculations ...

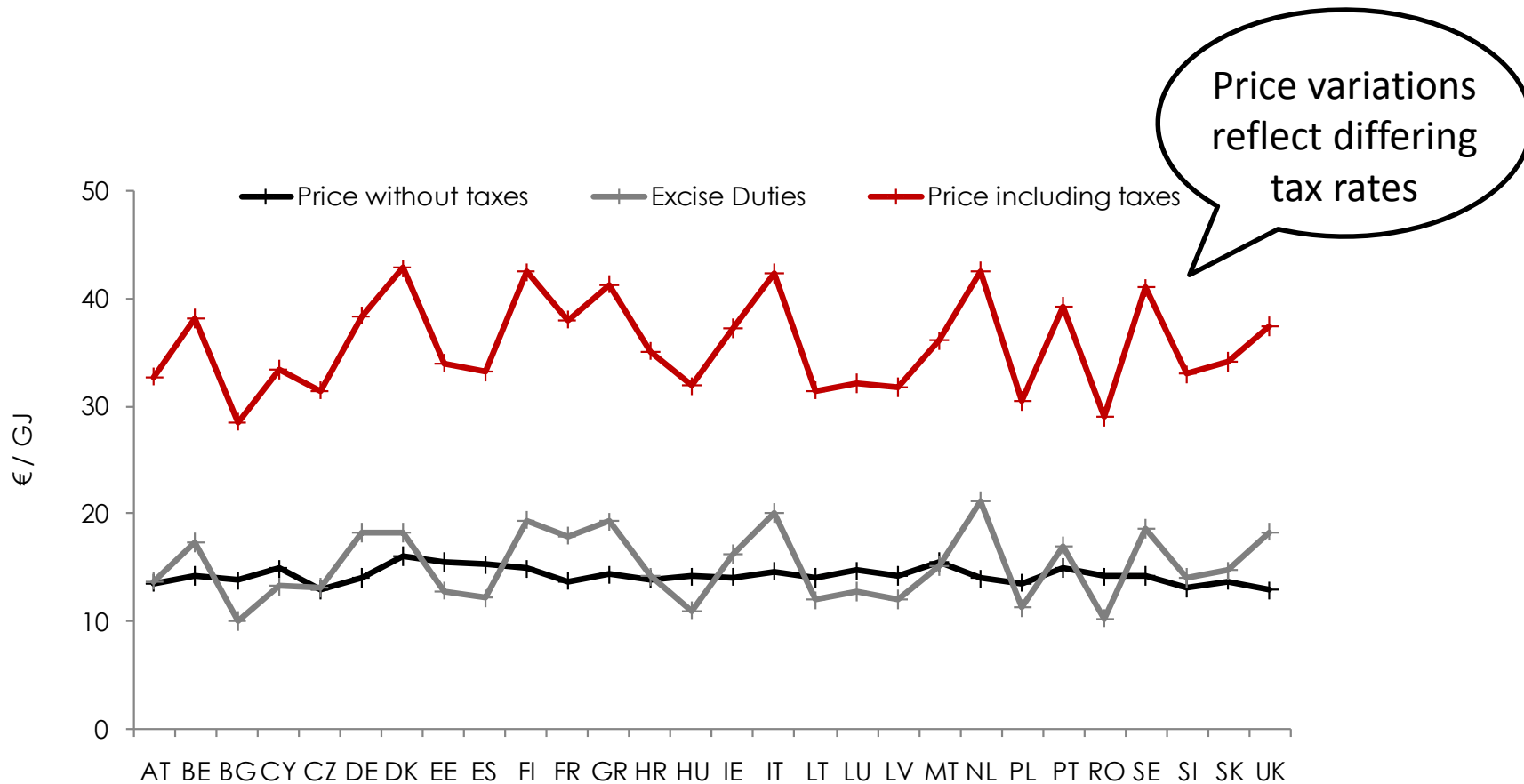
Difference partly due to missing information on tax exemptions

Implicit Energy Tax Rates in EU MS

2015 (II)



Source: Eurostat



- Commission Proposal for New Energy Taxation Directive (COM/2011/169) not adopted (requirement of unanimity)
- Energy (and carbon) tax rates differ pronouncedly between MS, energy sources and sectors
- Explicit carbon taxes exist only in one third of the EU MS
- Better alignment of energy taxes with carbon content advisable
- Interaction with EU ETS need to be considered

Thank you!

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Further information available at:

<http://cats.wifo.ac.at/>